



## Ferdinand Diermanse

Panel Member

Ferdinand is a senior researcher/consultant and is an expert in the field of flood risk analysis and flood risk management with over 20 years of work experience. He is currently working for Deltares, The Netherlands, which is an independent institute for applied research in the field of water and subsurface. He has carried out numerous hydrological and risk assessments for a variety of inland and coastal water systems and published various papers on these topics. He has substantial teaching experience and is capable of explaining complex topics to audiences with diverse backgrounds.

Ferdinand participated in the 'Brisbane River Catchment Flood Study – Hydrology phase', as one of the principal investigators. He developed an advanced Monte Carlo Simulation Framework for this project to quantify annual exceedance probabilities of peak discharges and flow volumes.

Ferdinand has participated in several challenging national and international projects. Countries of work experience include Albania, Australia, Bangladesh, Brazil, Canada, Dominican Republic, Ecuador, Egypt, Hong Kong, Indonesia, Islamic Republic of Iran, Ireland, Lao People's Democratic Republic, Liberia, Sao Tome and Principe, South Sudan, Sri Lanka, Tanzania, United States and Viet Nam. Recently, Ferdinand carried out a review for the province of Alberta, Canada, on proposed investments on flood mitigating measures for the City of Calgary. Previously, he led a consortium for a multi-hazard risk analysis for the whole country of Afghanistan, for hazards like floods, droughts, avalanches, landslides and earthquakes. In 2010, he carried out a water resources assessment for South Sudan and advised the Government of South Sudan on this topic in the negotiations with Sudan in the process of forming the new independent country of South Sudan.

### FIRM

Deltares

### SPECIALISATION

Flood risk analysis

Flood risk management

Hydrology and hydraulics

Inland / coastal water systems

### INDUSTRY TENURE

20 years

### EDUCATION

Masters of Science (Applied Mathematics), Delft University of Technology, The Netherlands

PhD (Hydrology), Delft University of Technology, The Netherlands

### PROFESSIONAL MEMBERSHIPS / PANELS

NRVB - Dutch association for risk analysis

### PUBLICATIONS / PRESENTATIONS / PANELS / INQUIRIES / EXPERT WITNESS

**Diermanse, F.L.M., D. G. Carroll, J. V. L. Beckers & R. Ayre, 2017.** *An efficient sampling method for fast and accurate Monte Carlo Simulations*, Australasian Journal of Water Resources <http://dx.doi.org/10.1080/13241583.2017.1304019>

**Diermanse, F.L.M., D.G. Carroll, J.V.L. Beckers, R. Ayre, J.M. Schuurmans, A, 2014.** *Monte Carlo Framework for the Brisbane River Catchment Flood Study*, Proceedings of the HWRS conference in Perth, Australia

Jongejan, R., **Diermanse, F.**, Kanning, W., Bottema M., 2019: *Reliability-based partial factors for flood defences*, Reliability Engineering and System Safety (RESS) 193

M Haasnoot, J Kwadijk, J van Alphen, D Le Bars, B van den Hurk **F Diermanse**, A van der Spek, G Oude Essink, J Delsman and M Mens, 2020: *Adaptation to uncertain sea-level rise; how uncertainty in Antarctic mass-loss impacts the coastal adaptation strategy of the Netherlands*, Environmental Research Letters <https://dx.doi.org/10.1088/1748-9326/ab666c>.

Diederer, D., Liu, Y., Gouldby, B., **Diermanse, F.**, and Vorogushyn, S, 2019. *Stochastic generation of spatially coherent river discharge peaks for continental event-based flood risk assessment*, Nat. Hazards Earth Syst. Sci. <https://doi.org/10.5194/nhess-19-1041-2019> 1041-1053

Dupuits, E.J.C., **Diermanse, F.L.M.** and Kok, M., 2017. *Economically optimal safety targets for interdependent flood defences in a graph-based approach with an efficient evaluation of expected annual damage estimates*, Nat. Hazards Earth Syst. Sci., 17 <https://doi.org/10.5194/nhess-17-1893-2017> 1893-2017

Klerk, WJ, HC Winsemius, WJ van Verseveld, AMR Bakker and FLM **Diermanse**, 2015. *The co-occurrence of storm surges and extreme discharges within the Rhine–Meuse Delta*, Environ. Res. Lett. 10

**Diermanse, F.L.M., De Bruijn, K.M. and Beckers, J., 2014:** *Importance sampling for efficient modelling of hydraulic loads in the Rhine–Meuse delta*, Stochastic Environmental Research and Risk Assessment March 2015, Volume 29, Issue 3, 637-652.

De Bruijn, K.M., **Diermanse, F.L.M.**, Beckers, J.V.L., 2014. *An advanced method for flood risk analysis in river deltas, applied to societal flood fatality risks in the Netherlands*, Nat. Hazards Earth Syst. Sci., 14, 2014 2767–2781